SEMIONOTUS AGASSIZ, 1832 (OSTEICHTHYES): PROPOSED DESIGNATION OF *SEMIONOTUS BERGERI* AGASSIZ, 1833 AS TYPE SPECIES. Z.N.(S.)2434

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The fossil 'holostean' *Semionotus* was described by Louis Agassiz in 1832, p. 144. The only specimen of the type species ever known has been lost or destroyed. Another species, *Semionotus bergeri* has been commonly recognised as the type species for 120 years. I present the following case for designating *Semionotus bergeri* as the type species under the plenary powers.

2. Agassiz, 1836, p. 222, explicitly designated *Semionotus leptocephalus* as the type species of *Semionotus*: 'L'espèce type de ce gentre est le *Semionotus leptocephalus* du Lias de Boll [Germany]'. His description (1836, pp. 222–223) and figure (1834, Tab. 26, fig. 1) of *S. leptocephalus* were based on a single specimen from the collection of the Agricultural Society of Würtemburg at Stuttgart. It was the only example of *S. leptocephalus* known to him (Agassiz, 1836, p. 222).

3. The specimen of *S. leptocephalus*, described and figured by Agassiz, 1832, 1834, 1836, was missing as early as 1861. Fraas, 1861, who described several new species of *Semionotus*, was unable to find Agassiz's specimen of *S. leptocephalus* in the collections of the Agricultural Society. There were still no other specimens of *S. leptocephalus* known (Fraas, 1861) and apparently, other authors who had written on *Semionotus* had not seen the specimen of *S. leptocephalus* figured by Agassiz, e.g. Berger, 1843; Schauroth, 1851; Borneman, 1854. Therefore, Fraas, 1861, p. 89, suggested that the name *Semionotus* be transferred from *S. leptocephalus* to *S. bergeri*, a species from the late Triassic of Coburg, Germany. This action was acknowledged by Deecke, 1889, applauded by Schellwien, 1901 and followed without qualification by Woodward, 1895 and Hay, 1902.

4. The identity of *S. leptocephalus* has always been ambiguous. All specimens of *S. leptocephalus*, except the original of Agassiz, have been subsequently identified as *S. bergeri*, or as belonging to species of *Lepidotes, Pholidophorus,* or *Heterolepidotes* (Woodward, 1888; Woodward, 1895; Fraas, 1861; P. E. Olsen, pers. comm.; A. R. McCune, pers. obs.). It was noted by Agassiz, 1832, p. 223, that *S. leptocephalus* bore a marked resemblance to a young *Lepidotes minor*, and as Fraas, 1861 and Deecke, 1889, pointed out, Agassiz's figure of *S. leptocephalus* is not sufficient to distinguish it from *Lepidotes*. Indeed, the only semionotid known today from the Lias of Boll is *Lepidotes elvensis*. While Agassiz's lithograph (1834, Tab.

26, fig. 1) is not clearly distinguishable from *Lepidotes*, his working sketches of *S. leptocephalus* and *L. gigas* (= *L. elvensis*) now in the Archives de l'État de Neuchâtel, are distinguishable. His sketch of *S. leptocephalus* (Surdez, 1973, p. 125) is consistent with the concept of *Semionotus* used (cf. Larsonneur, 1964; Schaeffer & Dunkle, 1950; Eastman, 1905; Schellwien, 1901).

5. All efforts to locate Agassiz's specimens of *S. leptocephalus* have been unsuccessful. I have searched the collections of the following museums: Staaliches Museum für Naturkunde Stuttgart (which now includes the collections of the Agricultural Society of Würtemburg at Stuttgart where the specimen should have been); Muséum National d'Histoire Naturelle in Paris (where Agassiz was studying when he described *S. leptocephalus*) and the Institut de Géologie de l'Université de Neuchâtel (which holds Agassiz's collection from the Académie de Neuchâtel, where he completed *Recherches sur les Poissons Fossiles*). I have also examined the collections in Tübingen, Munich, Göttingen and Zurich, and I have been informed by curators of the collections in Coburg, East Berlin and Frankfurt that they do not have the specimen. I have examined Agassiz's research notes, manuscripts and selected correspondence at the Archives de l'État in Neuchâtel and the Houghton and the Museum of Comparative Zoology libraries of Harvard University for clues or inconsistencies that might suggest the whereabouts of the specimen. I can only conclude that the specimen described as *S. leptocephalus* is permanently lost or destroyed.

6. Existing material of *S. bergeri* is adequate to serve as a reference for the genus *Semionotus*. Although Agassiz's figure of *S. bergeri* (1834, Tab. 26, fig. 2) is not informative, several syntypes exist including the figured specimen. These specimens, which I am redescribing, were referred to *Semionotus* by Agassiz, 1836, p. 224, and they are consistent with his concept of *Semionotus* as shown by his sketch of *S. leptocephalus*.

7. There are no known specimens of *S. leptocephalus*, the type species of *Semionotus*. *Semionotus bergeri* has been used as the type species for 120 years. Recognition of *S. bergeri*, rather than *S. leptocephalus*, as the type species would be in the interests of stability and universality of zoological nomenclature. Therefore I request that the International Commission on Zoological Nomenclature:

(1) use its plenary powers to set aside all type designations hitherto made for the nominal genus *Semionotus* Agassiz, 1832 and to designate *Semionotus bergeri* Agassiz, 1833 as type species;

(2) place the generic name *Semionotus* Agassiz, 1832 (gender: masculine), type species, by designation under the plenary powers in (1) above *Semionotus bergeri* Agassiz, 1833, on the Official List of Generic Names in Zoology;

(3) place the specific name *bergeri* Agassiz, 1833, as published in the binomen *Semionotus bergeri* (specific name of the type species of *Semionotus* Agassiz, 1832) on the Official List of Specific Names in Zoology.

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